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| 10/629,100 | 07/29/2003 | Mark Dimitrijevic | HO-P02803US0 | 6359 |
| 26271 | 7590 | 11/17/2004 | EXAMINER | |
| FULBRIGHT & JAWORSKI, LLP | | | SALDANO, LISA M | |
| 1301 MCKINNEY | | | ART UNIT | PAPER NUMBER |
| SUITE 5100 | | | 3673 | |
| HOUSTON, TX 77010-3095 | | | | |

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/629,100 | DIMITRIJEVIC, MARK |
| | Examiner Lisa M. Saldano | Art Unit 3673 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 7/29/2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3 and 5-18 is/are rejected.

7) Claim(s) 4 and 19-21 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 29 July 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/30/2003.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show an offset surface with the reference character “1036” as described on page 4, paragraph [0016] in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from

the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "said sidewall [that] generally tapers radially outward..." as claimed in claim 5, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: the specifications uses different reference characters to described the same element. Specifically, the applicant uses "1036" for an offset surface on page 4, paragraph [0016]. Then the applicant uses "109b" for the offset surfaces on page 5, paragraph [0021].

Appropriate correction is required.

Claim Objections

5. Claims 1, 3, 5, 6, 10, 15 and 18 are objected to because of the following informalities: Regarding claim 1, line 7, the applicant recites limitations directed to "said sidewall." However, prior claim language from which this limitation depends recites "all around sidewalls." The claim language is not consistent. Please clarify.

Regarding claim 3, line 1, the applicant recites limitations directed to “a second spiral edge.” However, prior claim language from which this limitation depends does not recite a first spiral edge or even an edge, for that matter. Please clarify.

Regarding claim 5, line 1, the applicant recites “said sidewall.” However, prior claim language from which this limitation depends recites “all around sidewalls.” The claim language is not consistent. Please clarify.

Regarding claim 6, line 1, the applicant recites “said sidewall.” However, prior claim language from which this limitation depends recites “all around sidewalls.” The claim language is not consistent. Please clarify.

Regarding claim 10, line 7, the applicant recites “said sidewall.” However, prior claim language from which this limitation depends recites “all around sidewalls.” The claim language is not consistent. Please clarify.

Regarding claim 15, line 6, the applicant recites “said side wall.” However, prior claim language from which this limitation depends recites “all around side walls.” The claim language is not consistent. Please clarify.

Regarding claim 18, line 2, the applicant recites “said foundation pile.” However, prior claim language from which this limitation depends recites “a foundation pile apparatus.” The claim language is not consistent. Please clarify. Furthermore, in line 7 (claim 18), the applicant recites “said sidewall.” However, prior claim language from which this limitation depends recites “all around sidewalls.” Again , the claim language is not consistent. Please clarify.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, in line 4, the applicant recites limitations wherein the invention has "a load bearing surface of between about .33 times or greater than the load bearing surface of said end wall." The examiner contends that the use of the word "between" implies that a range will thereafter be specified. However, the use of the word greater does not clearly specify a range; it rather leaves the values of the limitation open ended. Please clarify.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-3, 6, 7, 9 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Cody et al (6,665,990).

Regarding claims 1, 9 and 18, Cody et al disclose a high-tension high-compression foundation for an aboveground tower structure comprising spin fin piles 16 that may be concrete filled to create a solid body (see Figs. 2, 5A, 5B & 6 and column 6, line 59-column 7, line 58). As seen in Figs. 5A&5B, the spin fin pile 16 comprises an apparatus with spin fins 24 whereby the spin fins create a top end wall at their uppermost parts and a bottom end 26 that provides load bearing capacity (see Fig.6). The spin fins 24 function as ridges extending from all around sidewalls of the pile whereby the spin fins have an offset surface that extends generally outward of the surface of the piles sidewalls thereby providing additional load bearing capacity (see Fig.6 and column 7, lines 40-45).

Regarding claims 2 and 6, Cody et al disclose that the spin fins are constructed in spiral of helical form (see Fig. 5B and column 6, lines 63-67).

Regarding claim 3, Cody et al disclose a first and second spiral edge on at the least two spin fins.

Regarding claim 7, Cody et al disclose four separate spin fins 24 comprising at least two spiral edges that extend spirally downward of a sidewall of the pile traversing horizontally an arc distance of about 90 degrees (see Figs. 5A and 5B).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cody et al as applied to claim 1 above.

Cody et al disclose a high-tension high-compression foundation for an aboveground tower structure as described above whereby the spin fins 24 function as ridges extending from all around sidewalls of the pile whereby the spin fins have an offset surface that extends generally outward of the surface of the piles sidewalls thereby providing additional load bearing capacity (see Fig.6 and column 7, lines 40-45).

Although Cody et al fails to explicitly quantify the additional load bearing capacity provided by the offset surfaces as a function the load bearing surface of the end wall, the range disclosed by the applicant of the present invention is well within the range of capability of the invention taught by Cody et al. Furthermore, the applicant fails to disclose the criticality of the range claimed in the present invention.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cody et al as applied to claim 1 above, and further in view of England et al (6,402,432).

Cody et al disclose the invention as described above.

However, Cody et al fail to disclose that the pile tapers radially outward from the top end wall to the bottom end wall.

England et al disclose a method for installing load bearing piles comprising a pile 25 with an enlarged base 26 (see Fig.11 and column 10, lines 45-67). The pile tapers radially outwardly toward the bottom end of the pile. England et al disclose that the enlarged base forms increased load bearing capacity (see column 10, lines 45-53).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pile of Cody et al to incorporate an enlarged base, as taught by England et al, because the enlargement increases the load bearing capacity of the pile, as taught by England et al, thereby making the pile more effective as a foundation and support for above ground structures.

13. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cody et al (6,665,990).

Regarding claim 10, Cody et al disclose a high-tension high-compression foundation for an aboveground tower structure comprising spin fin piles 16 that may be concrete filled to create a solid body (see Figs. 2, 5A, 5B & 6 and column 6, line 59-column 7, line 58). As seen in Figs. 5A&5B, the spin fin pile 16 comprises an apparatus with spin fins 24 whereby the spin fins create a top end wall at their uppermost parts and a bottom end 26 that provides load bearing

capacity (see Fig.6). The spin fins 24 function as ridges extending from all around sidewalls of the pile whereby the spin fins have an offset surface that extends generally outward of the surface of the piles sidewalls thereby providing additional load bearing capacity (see Fig.6 and column 7, lines 40-45). Cody et al disclose and illustrate in Fig.6 the step of driving the pile 16 into its embedded position (see column 7, lines 35-38).

Regarding claims 11-13, Cody et al disclose that the spin fins are constructed in spiral or helical form, which enables the spin fins to rotate upon being applied with a compression load (see column 7, lines 35-38). The spiral spin fin inherently loosens soils adjacent to the pile during installation driving.

Regarding claim 14, Cody et al disclose a first and second spiral edge on at least two spin fins.

Although Cody et al fail to explicitly disclose a method of installing a foundation pile, the disclosure of Cody et al provides the basic steps required to develop a method for installing a foundation pile, as claimed by the applicant of the present invention.

Furthermore, regarding claim 12, the invention of Cody et al is fully capable of rotating about a $\frac{1}{4}$ turn for every downward distance of the pile corresponding to the pile height depending on the overall pile height. Cody et al's disclosure does not preclude use of the invention's principles on shorter piles, which would function as claimed by the applicant.

14. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cody et al (6,665,990) in view of Gillen (4,239,419).

Regarding claim 15, Cody et al disclose a high-tension high-compression foundation for an aboveground tower structure comprising spin fin piles 16 that may be concrete filled to create a solid body (see Figs. 2, 5A, 5B & 6 and column 6, line 59-column 7, line 58). As seen in Figs. 5A&5B, the spin fin pile 16 comprises an apparatus with spin fins 24 whereby the spin fins create a top end wall at their uppermost parts and a bottom end 26 that provides load bearing capacity (see Fig.6). The spin fins 24 function as ridges extending from all around sidewalls of the pile whereby the spin fins have an offset surface that extends generally outward of the surface of the piles sidewalls thereby providing additional load bearing capacity (see Fig.6 and column 7, lines 40-45). Cody et al disclose and illustrate in Fig.6 the step of driving the pile 16 into its embedded position (see column 7, lines 35-38). Cody et al disclose that the spin fins are constructed in spiral or helical form, which enables the spin fins to rotate upon being applied with a compression load (see column 7, lines 35-38). The spiral spin fin inherently loosens soils adjacent to the pile during installation driving.

Furthermore, regarding claim 16, the invention of Cody et al is fully capable of rotating about a $\frac{1}{4}$ turn for every downward distance of the pile corresponding to the pile height depending on the overall pile height. Cody et al's disclosure does not preclude use of the invention's principles on shorter piles, which would function as claimed by the applicant.

While Cody et al disclose that the pile may be concrete filled, Cody et al fail to disclose that the pile may be a concrete pile. Cody et al also fail to disclose use of multiple apparatuses.

Gillen discloses a concrete pile with spiral edges that is driven, compressed and rotated into location (see abstract).

Regarding claim 17, Gillen discloses that multiple threaded precast concrete sections 10 can be used to make the length of the pile longer (see column 8, lines 44-50). As broadly claimed by the applicant of the present invention ,the invention of Gillen discloses the step of installing one or more concrete pile apparatuses atop a first concrete pile apparatus by applying a downward force on the sections to join them at connections portions 16, whereby the total load bearing capacity of the of the pile includes bearing capacity provided by spiral edges of threads on the concrete sections.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Cody et al to fabricate a pile with spiral edges from concrete, as taught by Gillen, because Cody et al suggest that there is value in fabricating the pile, as least in part, from concrete. Gillen discloses that a pile can be fully fabricated from concrete and used in generally the same manner as the pile of Cody et al.

Furthermore, although Cody et al and Gillen fail to explicitly disclose a method of installing a foundation pile, the disclosures of Cody et al and Gillen provide the basic steps required to develop a method for installing a foundation pile, as claimed by the applicant of the present invention.

Allowable Subject Matter

15. Claims 4 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gorrell (4,650,372), Burell et al (4,644,715) and Hilson (3,243,927) disclose features that are pertinent to the present application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms



HEATHER SHACKELFORD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600